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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/646,855	08/21/2003	Tadahiro Ohmi	8075-1055-1	1521

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YOUNG & THOMPSON  
209 Madison Street  
Suite 500  
Alexandria, VA 22314

EXAMINER
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ZIMMERMAN, JOHN J

ART UNIT	PAPER NUMBER
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1794

NOTIFICATION DATE	DELIVERY MODE
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12/07/2009

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

DocketingDept@young-thompson.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/646,855	<b>Applicant(s)</b> OHMI ET AL.	
	<b>Examiner</b> John J. Zimmerman	<b>Art Unit</b> 1794	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 November 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 3 and 5-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 3 and 5-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12/30/2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>20091007</u> . | 6) <input type="checkbox"/> Other: _____  |

## **SUPPLEMENTAL ACTION**

### ***Supplemental Action***

1. This office action is a supplemental action which replaces in entirety the prior office action which was mailed December 2, 2009. A response to a request for continued examination (RCE) under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application on October 7, 2009. It has been determined that the RCE was improper since it was filed after a non-final office action (e.g. see "NOTICE OF IMPROPER REQUEST FOR CONTINUED EXAMINATION (RCE)" mailed November 30, 2009). Continued examination under 37 CFR 1.114 does not apply to an application unless prosecution in the application is closed. Since the RCE was accompanied by a reply to a non-final Office action, the reply will be entered and considered under 37 CFR 1.111. This office action has been made FINAL.

### ***Amendments***

2. This office action is in response to the correspondence titled "AMENDMENT" received November 3, 2009. Claims 3 and 5-7 are pending in this application.

### ***Information Disclosure Statement***

3. The information disclosure statement received October 7, 2009 has been considered.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 3 and 5-6 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. There appears to be no support in the original disclosure for the limitation "said coating material having a thickness of at least 100 nm" (e.g. independent claim 3, lines 6-7).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 3 and 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilkinson (U.S. Patent 3,480,483) in view of Ohmi (EP 0725160 A1).

8. Wilkinson discloses a method for making a metallic material having a chromium-oxide passivation film by depositing a chromium layer by vapor deposition, electroplating or by gas

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reaction (e.g. see column 2, lines 3-8). Electroplating is a wet plating method. The substrate is cleaned, e.g. immersion in an organic solvent, before coating (e.g. see column 1, lines 64-70). An annealing step may be used to improve the bond between the substrate and the coating (e.g. see column 1, lines 45-55). The chromium layer is then subjected to a controlled oxidation at 400 °C in air at a pressure of  $10^{-5}$  Torr (e.g. see column 2, lines 9-19). The controlled oxidation in air would be expected to produce a chromium oxide layer of  $\text{Cr}_2\text{O}_3$ . Regarding claim 6, the chromium oxide film of Wilkinson would be expected to inherently provide resistance to corrosive gases such as silane, diborane or phosphine even if not disclosed or expressly intended by Wilkinson to protect against these gases. Patent and Trademark Office can require applicants to prove that prior art products do not necessarily or inherently possess characteristics of claimed products where claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes; burden of proof is on applicants where rejection based on inherency under 35 U.S.C. § 102 or on prima facie obviousness under 35 U.S.C. § 103, jointly or alternatively, and Patent and Trademark Office's inability to manufacture products or to obtain and compare prior art products evidences fairness of this rejection, *In re Best, Bolton, and Shaw*, 195 USPQ 431 (CCPA 1977). Wilkinson differs from the pending claims in that the pending claims require a coating thickness of "at least 100 nm" (e.g. claim 3, lines 6-7) and "a distance of 100 nm" (e.g. claim 7, line 8). Wilkinson suggests an "example" thickness of less than 400 Angstroms (40 nm) and preferably less than 100 Angstroms (10 nm) - (e.g. see column 1, lines 45-55). Wilkinson, however, clearly discloses that the purpose of the chromium oxide coating is "to impart improved properties to the razor blade by giving enhanced durability to the cutting edge or edges" (e.g. see column 1, lines 35-38). The examiner takes

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Official Notice that razor blades are made in a variety of shapes, sizes, strengths and thicknesses for a variety of end uses (e.g. cutting facial hair, utility knives, industrial cutting tools, etc. . .).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use thicker coatings where more durability would be beneficial (e.g. industrial cutting tools, utility knives) than thinness (e.g. cutting facial hair). Wilkinson is not held to his preferred examples and one of ordinary skill in the art would understand to optimize the thickness of the coating for its disclosed function and the expected end use (e.g. industrial or non-industrial).

Wilkinson may also differ from the pending claims in that Wilkinson may not require a surface roughness (Ra) of not more than 1.5  $\mu\text{m}$ . Wilkinson, however, is coating cutting edges of razor blades and therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to minimize the surface roughness of the blade in order to produce a blade finish capable of producing an accurate and consistent cutting edge. In addition, since Wilkinson is concerned with improving the adhesion of the chromium plating layer to the substrate (e.g. see column 1, lines 50-52), it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a smooth clean surface for the chromium plating layer in order to increase adhesion of the plating. Wilkinson may differ from the claims in that Wilkinson may not require a baking step following the wet plating step (e.g. independent claim 3, lines 7-9). Ohmi, however, clearly shows a baking step at a temperature of 100-200 °C in a high-purity inert gas atmosphere should be done to remove any adhering moisture when forming a chromium oxide passivation film on a substrate (e.g. column 3, lines 26-35). In view of Ohmi, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a baking step after the wet plating step of Wilkinson in order to remove any adhering

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moisture from the blades to prevent moisture contamination of the succeeding steps. Ohmi also shows that when forming a chromium oxide passivation film, an inert gas may be used in conjunction with oxygen to adjust the properties of the passivation film for improved performance (e.g. see column 3, lines 35-49). In view of Ohmi, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use an inert gas to control the oxygen content of the atmosphere of Wilkinson's oxidizing step in order to provide controllable formation of a consistent chromium oxide passivation film.

#### ***Response to Arguments***

9. Applicant's arguments received November 3, 2009 have been carefully considered but are not persuasive.

10. Claims 3 and 5-6 are rejected under 35 U.S.C. 112, first paragraph, since there appears to be no support in the original disclosure for the limitation "said coating material having a thickness of at least 100 nm " (e.g. independent claim 3, lines 6-7). Applicant has pointed to Figure 2 for support for this limitation, but at best, Figure 2 only provides support for coating material having a thickness values of *up to* or *equal to* 100 nm. The claim language is drawn to thickness values *equal to* or *over* 100 nm and Figure 2 does not show any embodiments having thicknesses *over* 100 nm. Therefore, barring evidence of support elsewhere in the original disclosure, the amended matter is considered new matter that is unsupported by the original disclosure.

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11. Regarding the rejection of the claims under 35 U.S.C. 103(a) as being unpatentable over Wilkinson (U.S. Patent 3,480,483) in view of Ohmi (EP 0725160 A1), applicant argues that Wilkinson differs from the pending claims in that the pending claims require a coating thickness of "at least 100 nm" (e.g. claim 3, lines 6-7) and "a distance of 100 nm" (e.g. claim 7, line 8) while Wilkinson suggests an example thickness of less than 400 Angstroms (40 nm) and preferably less than 100 Angstroms (10 nm) - (e.g. see column 1, lines 45-55). The examiner notes, however, that Wilkinson clearly discloses that the purpose of the chromium oxide coating is "to impart improved properties to the razor blade by giving enhanced durability to the cutting edge or edges" (e.g. see column 1, lines 35-38). The examiner also notes that razor blades are made in a variety of shapes, sizes, strengths and thicknesses for a variety of end uses (e.g. cutting facial hair, utility knives, industrial cutting tools, etc. . .). Therefore, it clearly would have been obvious to one of ordinary skill in the art at the time the invention was made to use thicker coatings where more durability would be beneficial (e.g. industrial cutting tools, utility knives). Wilkinson is not held to his preferred examples and one of ordinary skill in the art would understand to optimize the thickness of the coating for its disclosed function and the expected end use of the blade (e.g. industrial, non-industrial). Wilkinson clearly discloses that a thickness of 400 Angstroms is *only* an "example" thickness for the coating. Contrary to applicant's arguments, there is no teaching in Wilkinson to limit the thickness to 400 Angstroms. Applicant also argues that a coating material thickness of e.g. at least 100 nm is necessary for chromium layer to remain under the chromium-oxide passivation when applying heat treatment (e.g. see page 8 of applicant's response). A review of the original disclosure, however, shows no discussion that a coating thickness of at least 100 nm is critical to this mechanism.

***Conclusion***

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John J. Zimmerman whose telephone number is (571) 272-1547. The examiner can normally be reached on 8:30am-5:00pm, M-F. Supervisor Jennifer McNeil can be reached on (571) 272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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14. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

John J. Zimmerman  
Primary Examiner  
Art Unit 1794

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Primary Examiner, Art Unit 1794

jjz  
December 1, 2009